Teton 1971

FOREST INSECT CONDITIONS ON TETON NATIONAL FOREST AND IN GRAND TETON NATIONAL PARK

1971

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Forest Insect Conditions on Teton National Forest and in Grand Teton National Park

The following is an account of the current forest insect problems on Teton National Forest and in Grand Teton National Park during 1971. This report was compiled from aerial survey records, on-the-ground evaluations and previous reports. Two major insect infestations are discussed, namely, the mountain pine beetle in lodgepole pine and the western spruce budworm on Douglas-fir.

Mountain pine beetle, Dendroctonus ponderosae Hopk.

Both the Forest and the Park have had a long history of bark beetle infestation. The most recent of these began in the mid-50's and continues to this day. Over the course of the current outbreak, most of the large diameter lodgepole pine has been killed by the mountain pine beetle. This reduction in suitable host material has caused a general decline in tree killing in recent years.

Grand Teton National Park

Following termination of control efforts in 1967, for the most part, the infestation has had a increasing trend. A slight resurgence in beetle activity took place over most of the Park in 1969. With one exception, Signal Mountain, tree killing declined again in 1970. The infestation in 1971 has decreased below the level recorded in 1970, but substantial tree losses did occur. Over the life of the infestation, most areas in the Park have lost 25-45 percent of the lodgepole pine over 5 inches d.b.h. (Figures 1 and 2).

The results of an on-the-ground evaluation survey to determine the trend of the infestation follows:

Area	No. of New Attacks In		Buildup Ratio 1/	Average Diameter of Trees Attacked In		Infestation Intensity 2/	Trend Prediction
	1971	1970		1971	1970		
Phelps Lake	79	90	0.9:1	11.3	11.3	H	Decreasing
Taggart Lake	18	39	0.5:1	9.1	8.6	M	Decreasing
String Lake	13	16	0.8:1	10.8	10.1	L	Decreasing
Signal Mtn.	224	278	0.8:1	9.5	10.4	H	Decreasing
Lizard Creek	198	135	1.5:1	14.1	14.5	H	Increasing

1/ Ratio of 1971 attacked trees to those attacked in 1970; i.e., 79:90 = 0.9:1.

2/ H = Heavy, M = Moderate, L = Light

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These data indicate a still further reduction in tree killing in 1972. However, a buildup in beetle activity occurred in the north end of the Park, and tree killing will intensify in portions of Lizard Creek, Berry Creek and lower Webb Canyon in 1972 (Figure 3). These areas contain an adequate number of large diameter trees to nourish heavy mortality for at least another 1 or 2 years.

Teton National Forest

The mountain pine beetle infestation on the Forest continued to decrease in 1971. Due to a growing lack of suitable host material, tree killing has been on the decline since 1967. Aerial survey records show the extent of the infestation was reduced in 1971 from that recorded in 1970. Scattered mortality was observed in Granite Creek, Shoul Creek, Bierer Creek, Spread Creek and lower Pacific Creek. Other areas of the Forest experienced widely scattered tree losses. In general, however, tree losses were much below those in 1970.

The only exception to this overall decline occurred in an area which includes most of the forested land west of Huckleberry Ridge (Figure 3). The results of an on-the-ground trend evaluation in that area follows:

Area	No. of New Attacks In		Buildup Ratio 1/	Average Diameter of Trees Attacked In		Infestation 2/ Intensity	Trend Prediction
	1971	1970		1971	1970		
Steamboat Mtn.	147	91	1.6:1	13.7	13.7	H	Increasing
Huckleberry Hot Spring	248	114	2.2:1	11.5	12.1	H	Increasing

1/ Ratio of 1971 attacked trees to those attacked in 1970; i.e., 147:91 = 1.6:1.

2/ H = Heavy, M = Moderate, L = Light

Trend predictions indicate the infestation will intensify in 1972.

In addition, the infestation has moved into Yellowstone National Park along the Lewis River beyond Lewis Lake.

Western spruce budworm, Choristoneura occidentalis Freeman.

Western spruce budworm continued to defoliate Douglas-fir and true firs along the Snake River from the confluence of the Hoback River south to the Forest boundry. No defoliation was recorded in the

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Park. The infested area on the Forest is a small portion of the much larger infestation on the Bridger National Forest. The number of infested acres during the past 5 years, as determined by aerial survey observations, follows:

Year	Infestation Intensity			
	Light	Medium	Heavy	Total
1967	2,900	-	-	2,900
1968	9,040	5,560	-	14,600
1969	8,000	-	-	8,000
1970	12,600	-	-	12,600
1971	800	3,000	1,600	5,400

The most significant change in the infestation during 1971 was the increase in the number of medium and heavy acres recorded. However, while the intensity increased, total infested acres decreased. This was also the case on the Bridger National Forest.

Although the intensity of the infestation has increased, tree mortality was not noted or is it expected. Egg mass collections made in Deer and Fall Creeks indicate the infestation will intensify in 1972. A similar trend is also predicted on the Bridger National Forest.

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APPENDIX

Figure 1. Aerial view of Taggart Lake, Grand Teton National Park, showing mountain pine beetle-caused mortality in lodgepole pine.

Figure 2. Aerial view of Timber Island, Grand Teton National Park, showing mountain pine beetle-caused mortality in lodgepole pine.

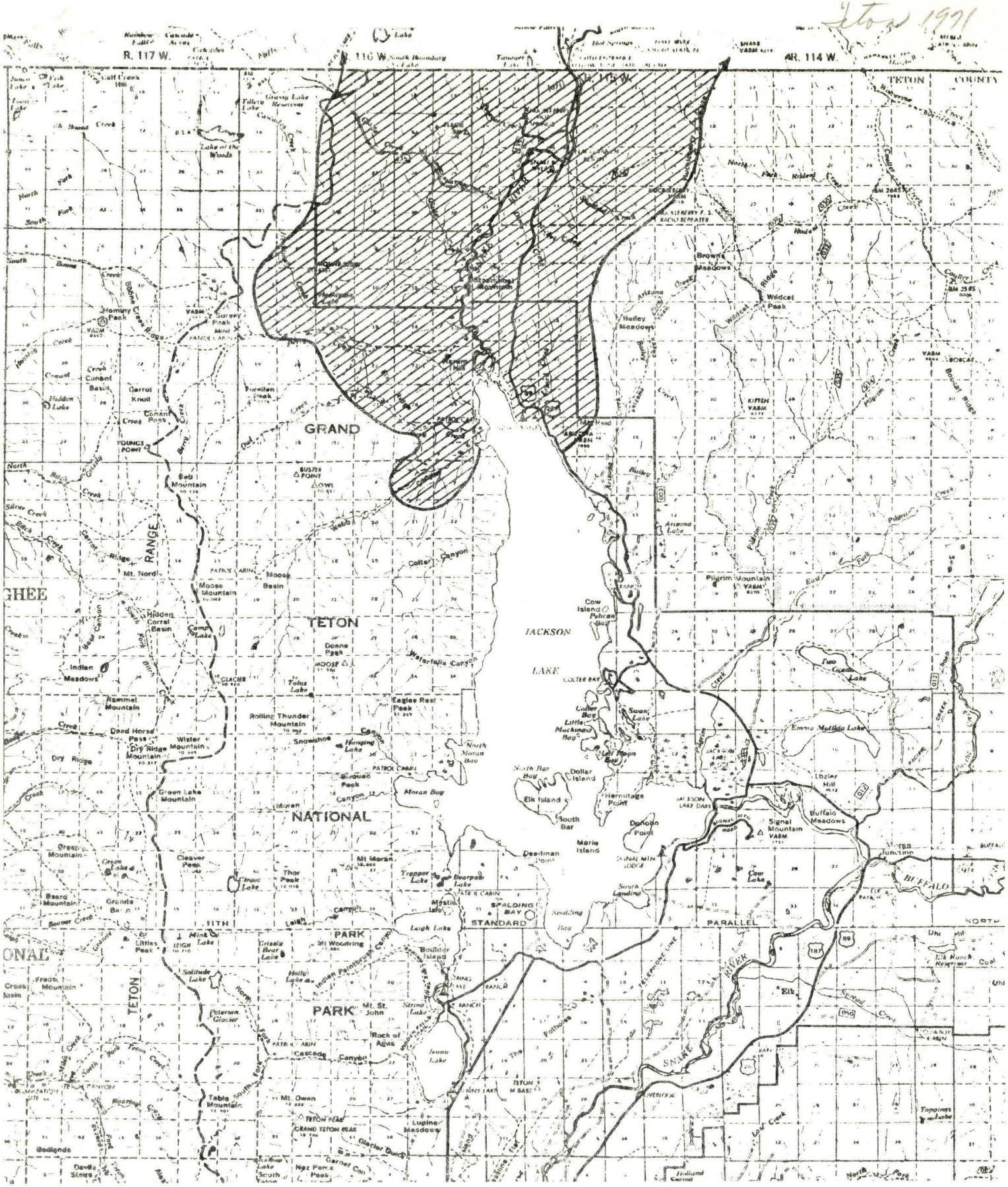

Figure 3. Area of increasing infestation on Teton Natinal Forest and in Grand Teton National Park.